

Date: Tuesday, 4/25/2006 8:39:57 AM  
 User: Kim Johnston

## Process Sheet

<b>Customer</b> : CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b> : AFT TUBE ASSEMBLY
<b>Job Number</b> : 26832	
<b>Estimate Number</b> : 10699	
<b>P.O. Number</b> : N/A	<b>Part Number</b> : D3391025
<b>This Issue</b> : 4/25/2006 <b>S.O. No.</b> : N/A	<b>Drawing Number</b> : D3391 REV D
<b>Prsht Rev.</b> : NC	<b>Project Number</b> : N/A
<b>First Issue</b> : N/A <b>Type</b> : LANDING GEAR	<b>Drawing Revision</b> : D
<b>Previous Run</b> : 26831	<b>Material</b> : N/A
<b>Written By</b> : SEE COMMENT BELOW	<b>Due Date</b> : 5/20/2006 <b>Qty:</b> 1 <b>Um:</b> Each
<b>Checked &amp; Approved By</b> : 06.04.25	
<b>Comment</b> : Est Rev B 06-02-07 ECN773 dwg rev. D EC Est Rev: C 06-03-28 Update Manufacturing Instructions JLM	

## Additional Product

Job Number:



<b>Seq. #:</b>	<b>Machine Or Operation:</b>	<b>Description :</b>
----------------	------------------------------	----------------------

1.0	D6014090	ALUMINUM EXTRUSION
-----	----------	--------------------



**Comment:** Qty.: 1.0000 f(s)/Unit Total : 1.0000 f(s)

ALUMINUM EXTRUSION

Pick:

Qty	Part Number	Description	Batch
-----	-------------	-------------	-------

1	D6014-090	Extrusion	243153
---	-----------	-----------	--------

Identify as D3391-3 → D6014-104

MS 06/04/30 1

2.0	MORI SEIKI	MORI SEIKI CNC LATHE LARGE
-----	------------	----------------------------

**Comment:** MORI SEIKI CNC LATHE LARGE

Turn as per Folio FA599 Rev: AA &amp; Dwg D3391 Rev: D

MS 06/04/30 1

3.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE
-----	-----	--

**Comment:** INSPECT PARTS AS THEY COME OFF MACHINE

MS 06/04/30 1

4.0	HAAS1	HAAS CNC VERTICAL MACHINING #1
-----	-------	--------------------------------

**Comment:** HAAS

1-Machine as per Folio FA 599 Rev: AA &amp; Dwg D3391 Rev: D

2-Drill ( PILOT HOLE) aft cap holes per Dwg D3391 using DT8803

3-Deburr

MS 06/05/09 1

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Tuesday, 4/25/2006 8:39:57 AM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: AFT TUBE ASSEMBLY

Job Number: 26832

Part Number: D3391025

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

*ml 06/05/09 1*

6.0

QC8

SECOND CHECK



Comment: SECOND CHECK

*ml 06/05/09 x1*

7.0

BENDING

BENDING MACHINE



Comment: NC Bender

Form as per Dwg D3391 Using Bend Prog 3391025

*DP 06-5-10*

8.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

*BE 06/05/10 (1)*

9.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Open Aft cap pilot hole to .208" as per Dwg D3391

*DP 06-5-10*

2-Drill Tube as per D3391 using DT8809 (HOLES MARKED "A" ONLY)

*DP 06-5-10*

3-Drill and c' sink wearshoe holes as per Dwg D3391 Using DT8878(Mid Tube) & DT8217 Wearplate Jig

*DP/BE 06-05-10*

4-C'sink holes for float bag (4 holes per side) as per Dwg D3391

*BE 06-05-10*

5-Deburr

*BE 06-05-10*

Tools: rill

10.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

*J 06-05-10*

11.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Acid etch and Alodine as per QSI 005 4.1

*DL 06/05/10*

*(1)*

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Tuesday, 4/25/2006 8:39:58 AM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: AFT TUBE ASSEMBLY

Job Number: 26832

Part Number: D3391025

Job Number:



Seq. #: Machine Or Operation: Description :

12.0 POWDER COATING POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

DL 04/05/16 (1)

13.0 QC3 INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

FC 06 05 18 (1)

14.0 AEES10KB366 INSERT



Comment: Qty.: 14.0000 Each(s)/Unit Total: 14.0000 Each(s)

Insert

Pick:

Qty Part Number Description Batch

14 AEES10KB366 Insert

M17905 ✓

15.0 NAS1330C3KB166



Comment: Qty.: 8.0000 Each(s)/Unit Total: 8.0000 Each(s)

INSERT

Pick:

Qty Part Number Description Batch

8 NAS1330C3KB166 Insert

M100732 ✓

16.0 AEES10KB266 INSERT



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

INSERT

Pick:

Qty Part Number Description Batch

2 AEES10KB266 Insert

M17905 ✓

or NAS1330C3KB266 ✓

17.0 AEES10KB316 INSERT



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

INSERT

Pick:

Qty Part Number Description Batch

2 AEES10KB316 Insert

M17905

or NAS1330C3KB316

DL 04/05/16 (1)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Tuesday, 4/25/2006 8:39:58 AM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: AFT TUBE ASSEMBLY

Job Number: 26832

Part Number: D3391025

Job Number:



Seq. #: Machine Or Operation: Description :

18.0 D2646 Aft Cap



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)  
Aft Cap

Pick:

Qty	Part Number	Description	Batch
1	D2646	Aft Cap	B25381

B25381

19.0 AN3C4A BOLT



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)  
Bolt

Pick:

Qty	Part Number	Description	Batch
2	AN3C4A	Bolt	M100651

M100651

20.0 AN960C10L washer



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)  
Inventory

Pick:

Qty	Part Number	Description	Batch
2	AN960C10L	Washer	M18822

M18822

21.0 NAS1515H3L WASHER



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)  
WASHER

Pick:

Qty	Part Number	Description	Batch
2	NAS1515H3L	Washer	M100186

M100186

22.0 HAND FINISHING1 HAND FINISHING RESOURCE #1



Comment: SMALL & MEDIUM FAB RESOURCE 1  
1-Install inserts as per Dwg D3391

DL 06/05/18 (1)

2-Install Aft Cap as per Dwg D3391

A/R Sikaflex-241/-291 M100901

Sikaflex expiry date: 11/09

FL 06 05 23 (1)

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes ☐ No ☒ DQA: ☒ Date: 06/05/25

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



Date: Tuesday, 4/25/2006 8:39:58 AM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: AFT TUBE ASSEMBLY

Job Number: 26832

Part Number: D3391025

Job Number:



Seq. #:

Machine Or Operation:

Description :

23.0

QC5

INSPECT WORK TO CURRENT STEP



*2005-24* ①

Comment: INSPECT WORK TO CURRENT STEP

24.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: *N/A*

*PL 04/05/18* ①

25.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

*DP 06/05/25* ①

Job Completion



*U 06.05.25*

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	<b>26832</b>
<b>Description:</b> Float Skidtube (412)		<b>Part Number:</b>	<b>D3391-3</b>
<b>Inspection Dwg:</b> D3391	<b>Rev:</b> D	<b>Page 1 of 1</b>	

### FIRST ARTICLE INSPECTION CHECKLIST

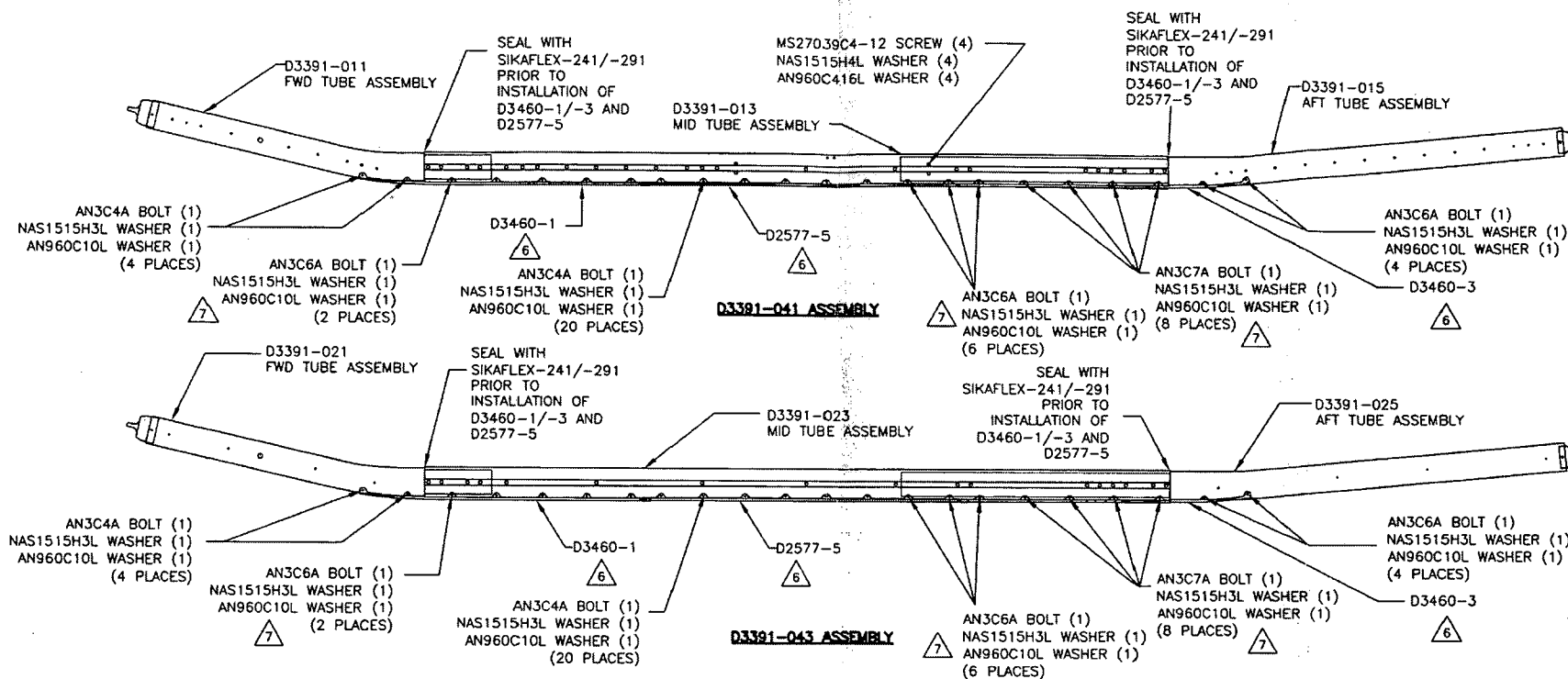
☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
14.000	+/-0.010	14.000	✓			
3.500	+/-0.010	3.494	✓			
88.93	+/-0.030	88.93	✓			
44.995	+/-0.030	45.000	✓			
3.200	+/-0.010	3.201	✓			
1.526	+0.000/-0.030	1.525	—			
0.200	+/-0.010	0.195	—			
7.500	+/-0.010	7.497	—			
27.750	+/-0.010	27.750	—			
31.750	+/-0.010	31.750	—			
35.250	+/-0.010	35.250	—			
0.400	+/-0.010	0.400	—			
<del>Ø0.208</del>	<del>+0.005/-0.001</del>					
3.300	+/-0.010	3.297	—			
0.200	+/-0.010	0.196	—			
3.520	+/-0.010	3.526	—			
0.687	+0.010/-0.000	0.692	—			
R0.062	+/-0.010	R0.062	—			
Ø0.484	+0.005/-0.001	Ø0.485	—			

N/A

<b>Measured by:</b> MS Amf	<b>Audited by:</b> Ep	<b>Prototype Approval:</b>	N/A
<b>Date:</b> 06/04/30	<b>Date:</b> 06/05/09	<b>Date:</b>	N/A

<b>Rev</b>	<b>Date</b>	<b>Change</b>	<b>Revised by</b>	<b>Approved</b>
A	06.04.24	New Issue	KJ/JLM	



# **D3391-041/-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST**

QTY - 041	QTY - 043	PART NUMBER	DESCRIPTION
X	X	D3391-041	FLOAT SKIDTUBE ASSEMBLY
		D3391-043	FLOAT SKIDTUBE ASSEMBLY
1		D3391-011	FWD TUBE ASSEMBLY
1		D3391-013	MID TUBE ASSEMBLY
1		D3391-015	AFT TUBE ASSEMBLY
	1	D3391-021	FWD TUBE ASSEMBLY
	1	D3391-023	MID TUBE ASSEMBLY
	1	D3391-025	AFT TUBE ASSEMBLY
24	24	AN3C4A	BOLT
12	12	AN3C6A	BOLT
8	8	AN3C7A	BOLT
44	44	NAS1515H3L	WASHER
44	44	AN960C10L	WASHER
4		MS27039C4-12	SCREW
4		NAS1515H4L	WASHER
4		AN960C416L	WASHER
1	1	D2577-5	WEARSHOE
1	1	D3460-1	WEARSHOE
1	1	D3460-3	WEARSHOE

## **GENERAL NOTES**

- ALL DIMENSIONS ARE IN INCHES
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- FINISH: ACID ETCH AND ALODINE PER DART QSI 005 4.1  
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY. CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL 'E' SIZE HOLES (#0.250-#0.257) FOR WEARSHOE INSERTS. C/SINK #0.391/#0.425 x 100" AS APPLICABLE AND INSTALL INSERTS EXCEPT WHERE INDICATED.
- APPLY A LAYER OF SIKAFLEX -241/-291 ADHESIVE BETWEEN THE BOTTOM OF THE SKIDTUBE ASSEMBLY AND THE WEARPLATES
- DO NOT TORQUE, HAND TIGHTEN ONLY

△

**RELEASED**

06.01.27

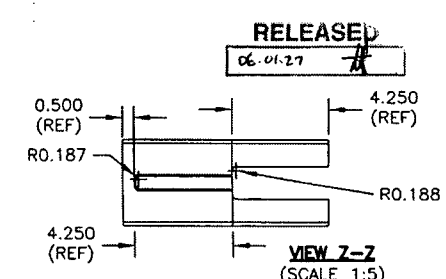
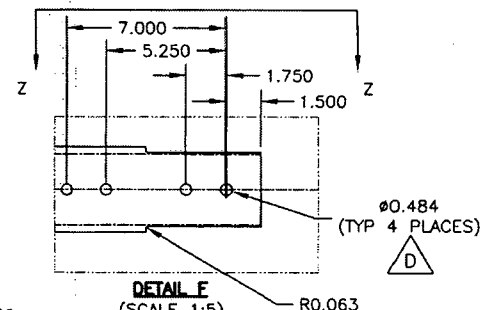
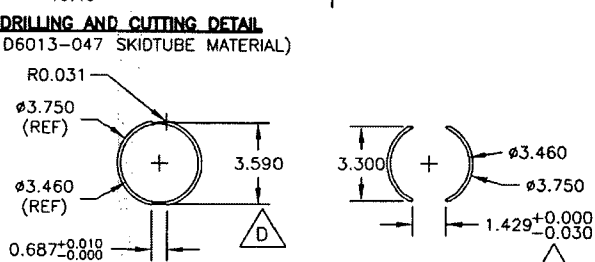
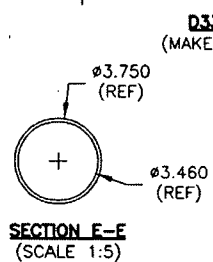
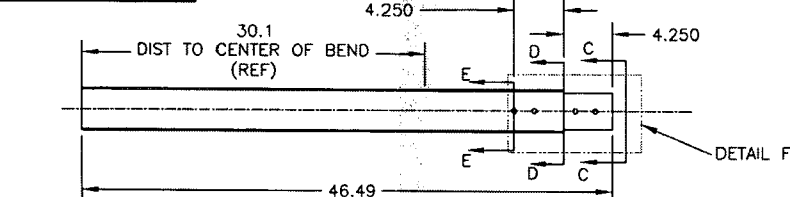
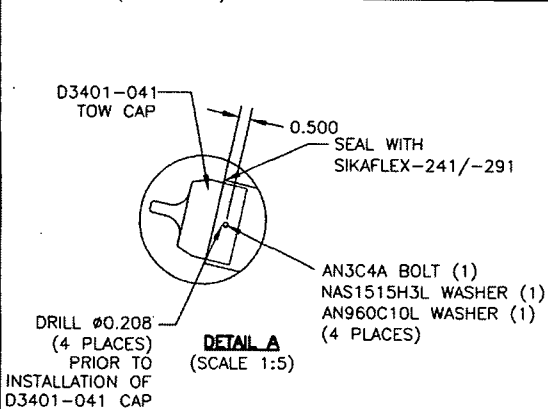
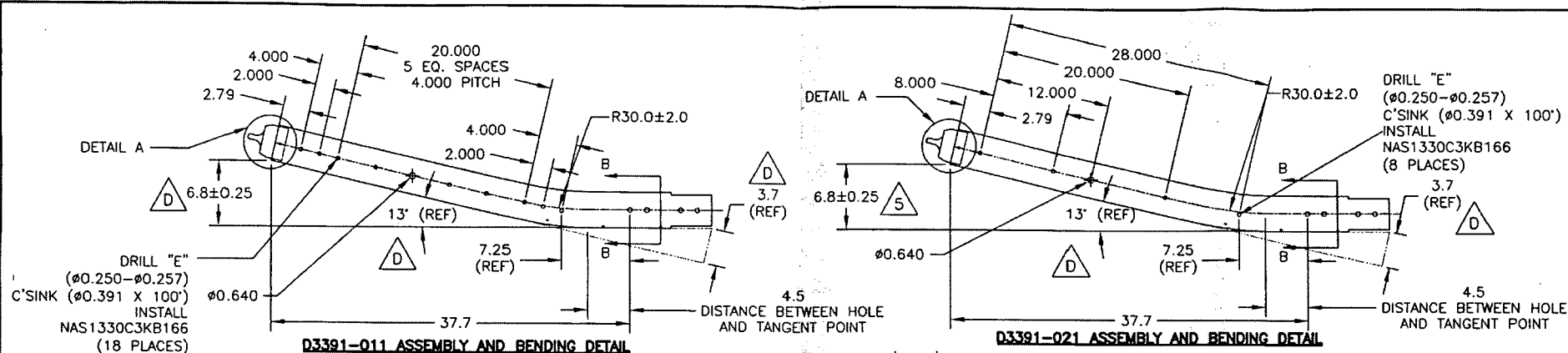
D	06.01.23	UPDATE TOLERANCE, CHANGE HOLE SIZE
C	05.09.27	LENGTHEN AFT EXTENSION
B	05.06.10	DRAWING UPDATES
A	05.02.07	NEW ISSUE
DESIGN	PH	DRAWN BY PH
CHECKED	#	APPROVED
DATE	06.01.23	DRAWING NO. D3391
		TITLE 412 FLOAT SKIDTUBE
		REV. 0 SHEET 1 OF 5
		SCALE NTS

COPYRIGHT © 2005 BY DART AEROSPACE USA, INC.

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.

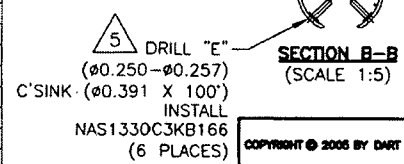
**DART** DART AEROSPACE USA, INC.  
FORT HADLOCK, MA

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WDR ORDER  
NO. 26832



**D3391-011/-021 FWD TUBE ASSEMBLY PARTS LIST**

QTY - 011	QTY - 021	PART NUMBER	DESCRIPTION
X		D3391-011	FWD TUBE ASSEMBLY
	X	D3391-021	FWD TUBE ASSEMBLY
1	1	D6013-047	FWD TUBE
1	1	D3401-041	TOW CAP
4	4	AN3C4A	BOLT
4	4	NAS1515H3L	WASHER
4	4	AN960C10L	WASHER
24	14	NAS1330C3KB166	INSERT



RELEASED 06-01-27

DESIGN PH PH DART DART AEROSPACE USA, INC. PORT HADLOCK, MA

CHECKED PH APPROVED PH

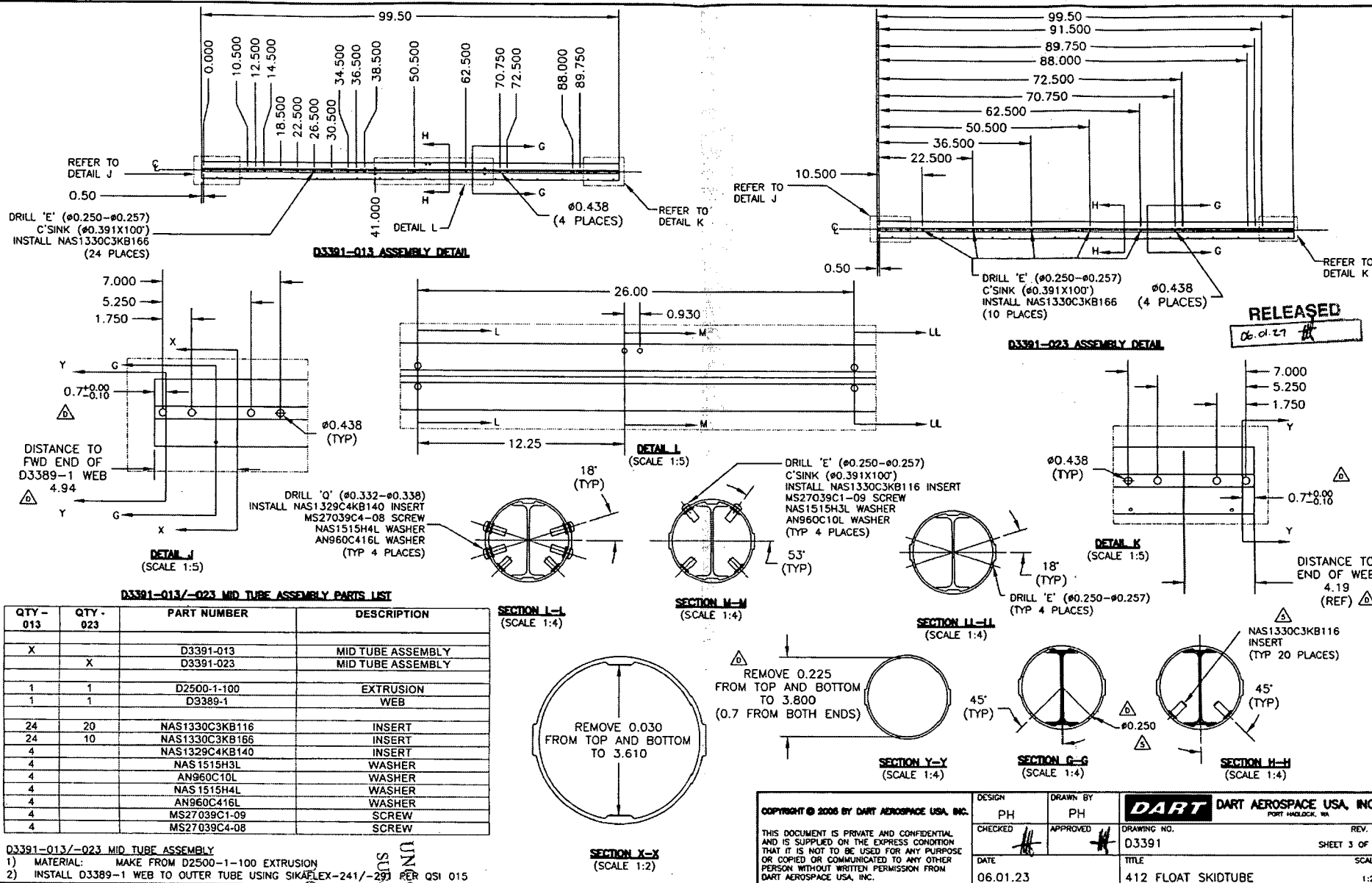
DATE 06.01.23

DRAWING NO. D3391

TITLE 412 FLOAT SKIDTUBE

REV. D SHEET 2 OF 5 SCALE 1:10

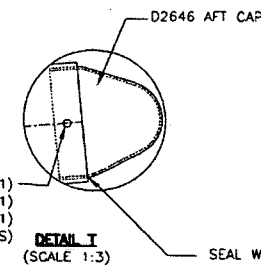
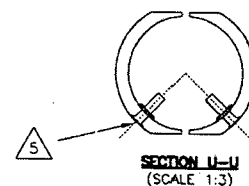
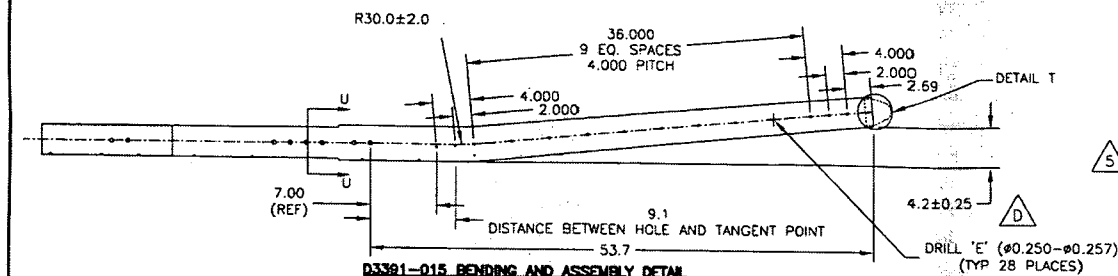
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
26832



SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
26832

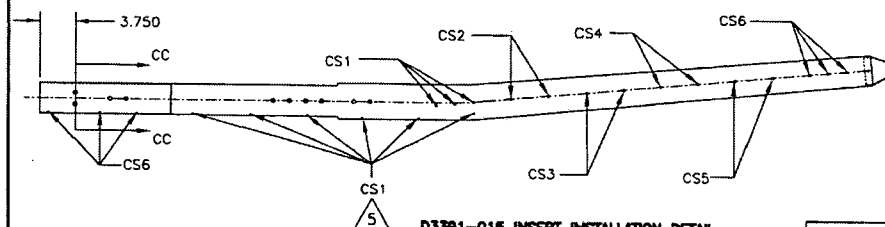


RELEASED  
06.01.27



AN3C4A BOLT (1)  
NAS1515H3L WASHER (1)  
AN960C10L WASHER (1)  
(2 PLACES)

SEAL WITH  
SIKAFLEX-241/-291



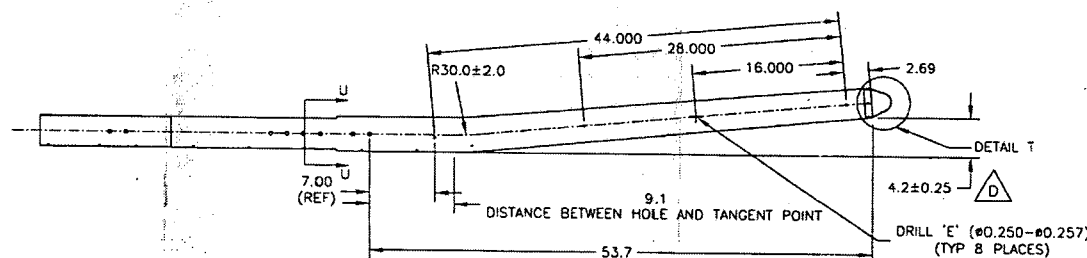
D3391-015 INSERT INSTALLATION DETAIL  
(SEE TABLE)

C'SINK AND INSTALL AESS10KBXXX AND/OR  
NAS1330C3KBXXX IN HOLES MARKED CS1-CS6 AS  
FOLLOWS

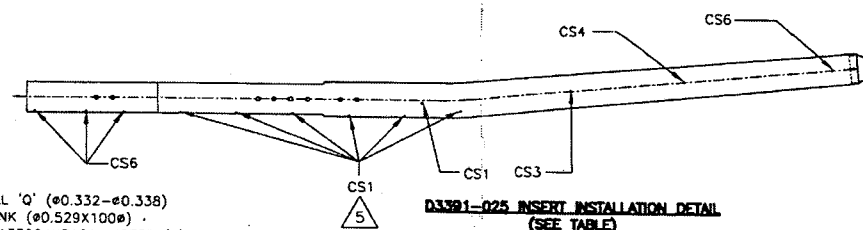
HOLES MARKED	QTY D3391-015	QTY D3391-025	C'SINK	P/N
CS1	18	14	Ø0.425	AESS10KB366
CS2	4		Ø0.391	AESS10KB366
CS3	4	2	Ø0.391	NAS1330C3KB316
CS4	4	2	Ø0.391	NAS1330C3KB266
CS5	4		Ø0.391	NAS1330C3KB216
CS6	12	8	Ø0.391	NAS1330C3KB166

D3391-015/-025 AFT TUBE ASSEMBLY PARTS LIST

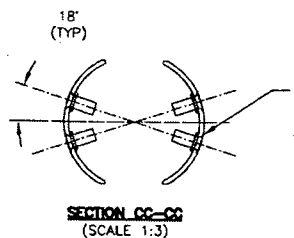
QTY - 015	QTY - 025	PART NUMBER	DESCRIPTION
X		D3391-015	AFT TUBE ASSEMBLY
	X	D3391-025	AFT TUBE ASSEMBLY
1	1	D6014-090	AFT TUBE
1	1	D2646	AFT CAP
18	14	AESS10KB366	INSERT
4	2	NAS1330C3KB316	INSERT
4	2	NAS1330C3KB266	INSERT
4		NAS1330C3KB216	INSERT
12	8	NAS1330C3KB166	INSERT
4		NAS1330C4KB151	INSERT
2	2	AN3C4A	BOLT
2	2	NAS1515H3L	WASHER
2	2	AN960C10L	WASHER



D3391-025 BENDING AND ASSEMBLY DETAIL



D3391-025 INSERT INSTALLATION DETAIL  
(SEE TABLE)



DRILL 'Q' (Ø0.332-Ø0.338)  
C'SINK (Ø0.529X100Ø)  
NAS1330C4KB151 INSERT (1)  
(4 PLACES)

COPYRIGHT © 2000 BY DART AEROSPACE USA, INC.  
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL  
AND IS SUPPLIED ON THE EXPRESS CONDITION  
THAT IT IS NOT TO BE USED FOR ANY PURPOSE  
OR COPIED OR COMMUNICATED TO ANY OTHER  
PERSON WITHOUT WRITTEN PERMISSION FROM  
DART AEROSPACE USA, INC.

DESIGN PH	DRAWN BY PH	DART AEROSPACE USA, INC. PORT HADLOCK, OH	
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. D3391	REV. D SHEET 5 OF 5
DATE 06.01.23	TITLE 412 FLOAT SKIDTUBE		SCALE 1:12

SHOP COPY  
RETURN TO  
ENGINEERING  
CONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
26832